

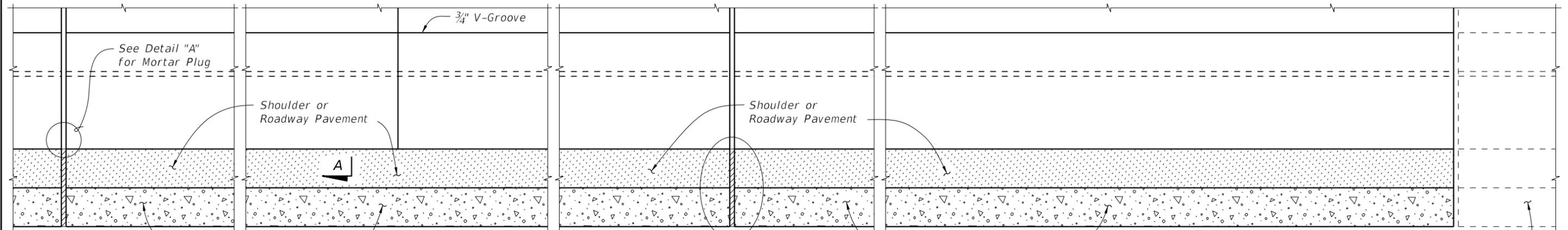
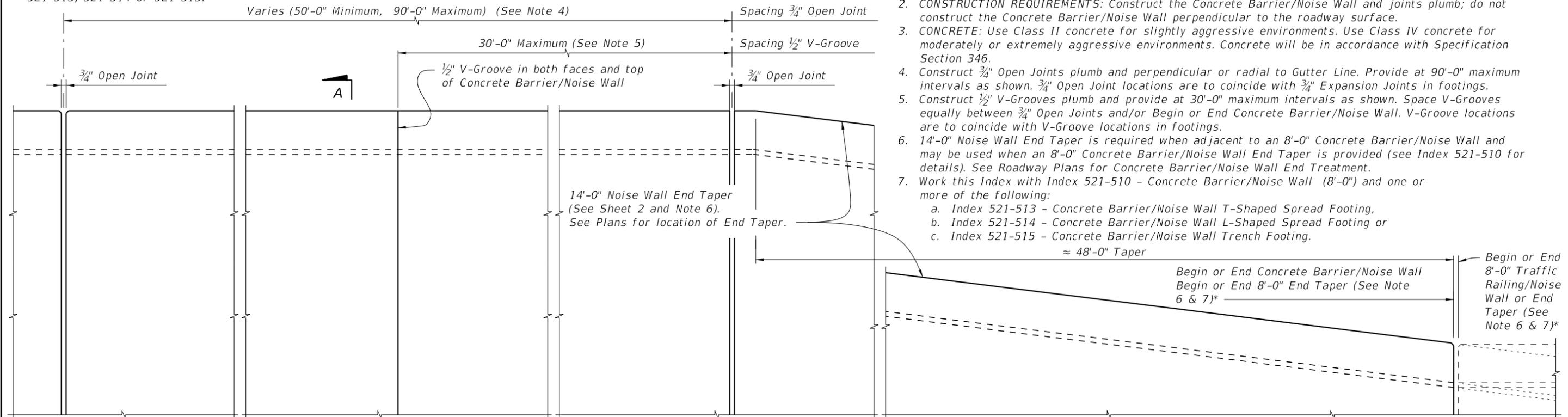
CROSS REFERENCE:
 For Section A-A, Detail "A" and Estimated Quantities, see Sheet 3.
 For Expansion Joint Detail in Footing, see Index 521-513, 521-514 or 521-515.

**PLAN (Reinforcing Steel not shown for clarity)
 (T-Shaped Spread Footing Shown, L-Shaped Spread Footing and Trench Footing Similar)**

Concrete Barrier/NOISE WALL NOTES

8'-0" Concrete Barrier/Noise Wall continuing or End Taper on Approach Slab or Roadway (shown)

1. This railing has been structurally evaluated to be equivalent or greater in strength to a safety shape/Noise Wall combination railing which has been crash tested to NCHRP Report 350 TL-4 Criteria.
2. CONSTRUCTION REQUIREMENTS: Construct the Concrete Barrier/Noise Wall and joints plumb; do not construct the Concrete Barrier/Noise Wall perpendicular to the roadway surface.
3. CONCRETE: Use Class II concrete for slightly aggressive environments. Use Class IV concrete for moderately or extremely aggressive environments. Concrete will be in accordance with Specification Section 346.
4. Construct 3/4" Open Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown. 3/4" Open Joint locations are to coincide with 3/4" Expansion Joints in footings.
5. Construct 1/2" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between 3/4" Open Joints and/or Begin or End Concrete Barrier/Noise Wall. V-Groove locations are to coincide with V-Groove locations in footings.
6. 14'-0" Noise Wall End Taper is required when adjacent to an 8'-0" Concrete Barrier/Noise Wall and may be used when an 8'-0" Concrete Barrier/Noise Wall End Taper is provided (see Index 521-510 for details). See Roadway Plans for Concrete Barrier/Noise Wall End Treatment.
7. Work this Index with Index 521-510 - Concrete Barrier/Noise Wall (8'-0") and one or more of the following:
 - a. Index 521-513 - Concrete Barrier/Noise Wall T-Shaped Spread Footing,
 - b. Index 521-514 - Concrete Barrier/Noise Wall L-Shaped Spread Footing or
 - c. Index 521-515 - Concrete Barrier/Noise Wall Trench Footing.

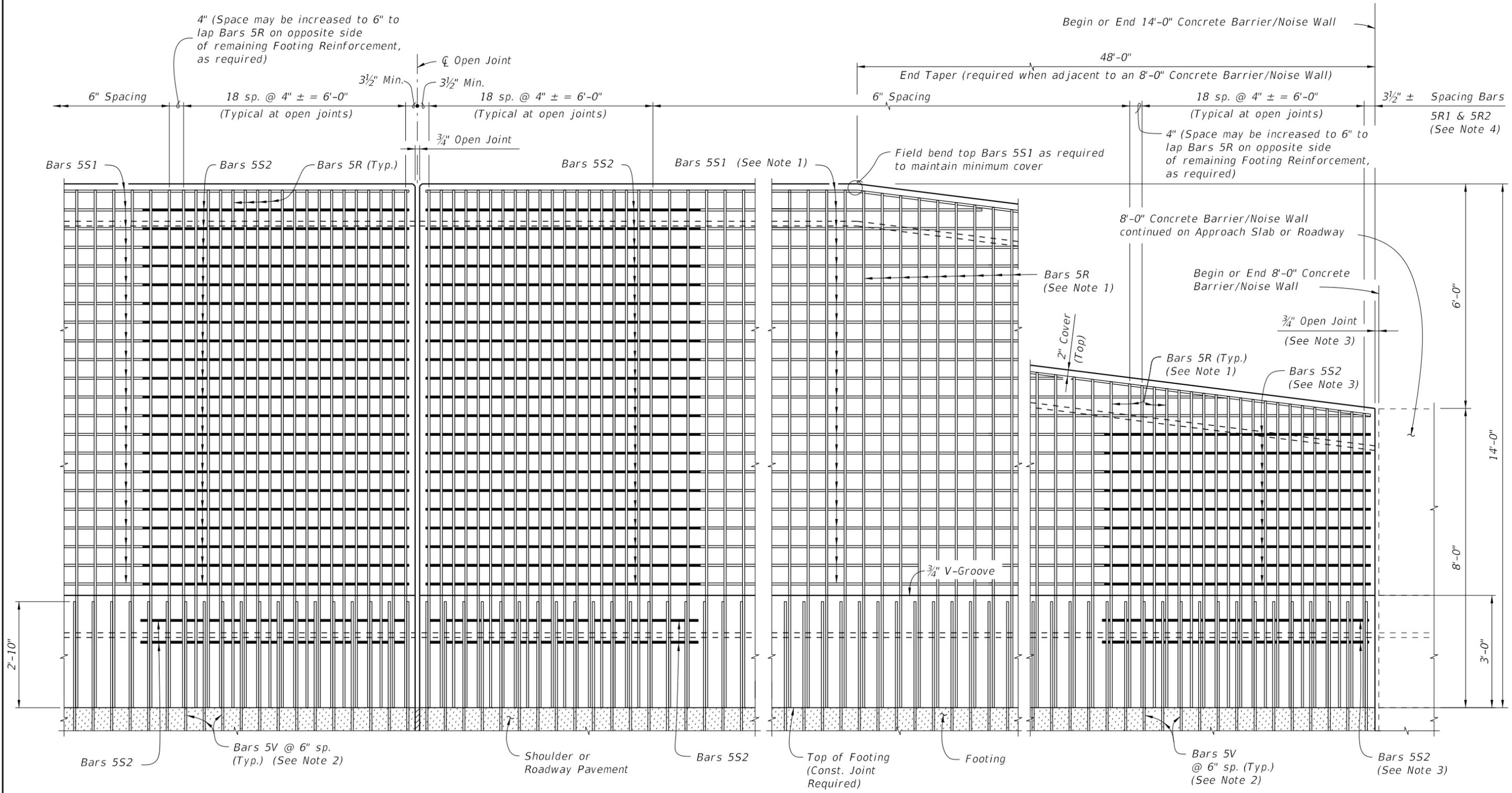


**ELEVATION OF INSIDE FACE OF CONCRETE BARRIER/NOISE WALL
 (Reinforcing Steel not shown for clarity)
 (T-Shaped Spread Footing Shown, L-Shaped Spread Footing and Trench Footing Similar)**

* 3/4" Open Joint may be omitted when 8'-0" Railing/Noise Wall End Taper is adjacent to a 14'-0" Concrete Barrier/Noise Wall End Taper

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LAST REVISION 11/01/17	DESCRIPTION:	 FY 2018-19 STANDARD PLANS	CONCRETE BARRIER/NOISE WALL (14'-0")	INDEX 521-511	SHEET 1 of 3
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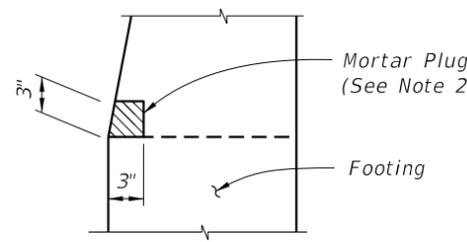
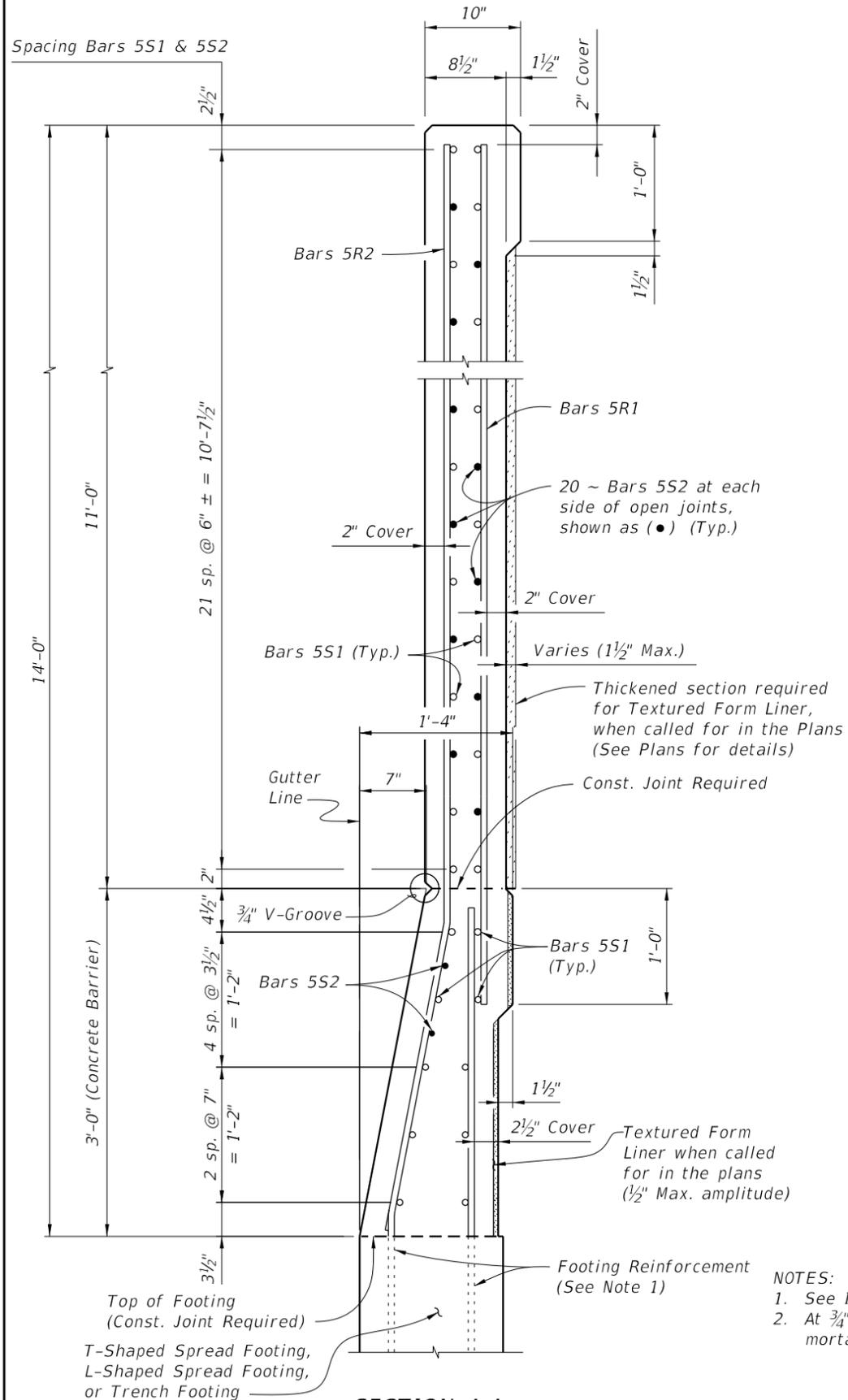
ELEVATION OF CONCRETE BARRIER/NOISE WALL REINFORCING STEEL
(Bars 5S1 in Railing not shown for clarity)

ELEVATION OF CONCRETE BARRIER/NOISE WALL END TAPER
(Bars 5S1 in Railing not shown for clarity)

- NOTES:
1. Field Cut Bars 5R & 5S1 in Noise Wall End Taper as required to maintain minimum cover.
 2. See Index 521-513, 521-514 and 521-515 for footing reinforcement.
 3. 3/4" Open Joint may be omitted when 8'-0" Railing/Noise Wall End Taper is adjacent to a 14'-0" Concrete Barrier/Noise Wall End Taper as shown on Sheet 1. See Index 521-510 for reinforcement details and spacing. Bars 5S2 are not required when 3/4" Open Joint is omitted.
 4. Bar spacing shown is along the Gutter Line.

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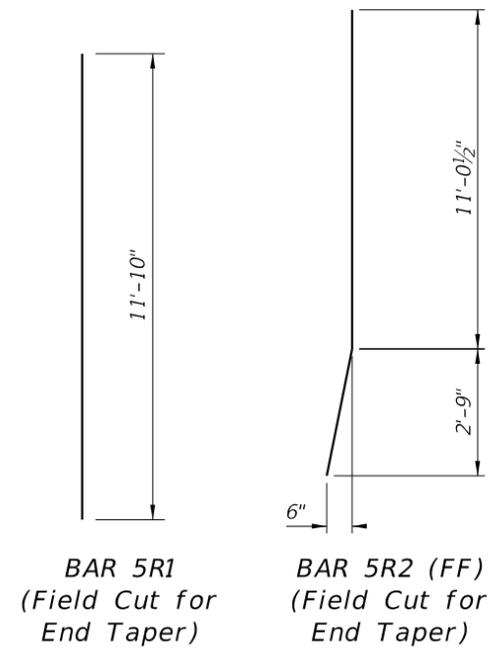
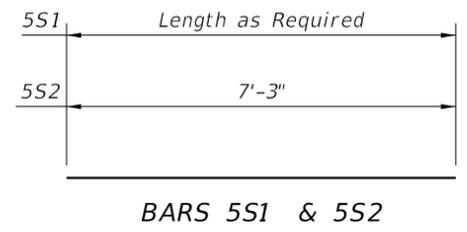


DETAIL "A" - SECTION AT OPEN JOINT

- NOTES:
1. See Index 521-513, 521-514 or 521-515 for footing reinforcement.
 2. At 3/4" Open Joints, plug the lower 3" portion of the open joint by filling it with mortar in accordance with Specification Section 400.

REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
R1	5	11'-10"
R2	5	13'-10"
S1	5	AS REQD.
S2	5	7'-3"
R2	5	2'-10"



REINFORCING STEEL NOTES:

1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at the open joints will have a 2" minimum cover.
3. Bars 5R may be continuous or spliced at construction joints. Lap splices for Bars 5R and 5S1 will be a minimum of 2'-2".
4. The Contractor may use Welded Wire Reinforcement (WWR) when approved by the Engineer. WWR must consist of Deformed wire meeting the requirements of Specification Section 931.

ESTIMATED CONCRETE BARRIER/NOISE WALL QUANTITIES

ITEM	UNIT	QUANTITY
Concrete (Concrete Barrier)	CY/FT	0.107
Concrete (Noise Wall, excluding any thickening)	CY/FT	0.293
Reinforcing Steel (Railing/Noise Wall) (Bars R1, R2, S1 & V)	LB/FT	105.95
Additional Reinf. @ Open Joint (Railing/Noise Wall)	LB	488.12

CROSS REFERENCE:
For locations of Section A-A and Detail "A", see Sheet 1.

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